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State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

March 22, 2016

Steve Schnoor
Kennecott Utah Copper LLC
4700 Daybreak Parkway
South Jordan, Utah 84095

Subject: Second Review of Amended Notice of Intention to Commence Large Mining Operations, Kennecott Barneys Canyon Mining Company, Barneys Canyon Mine, M/035/0009, Salt Lake County, Utah

Dear Mr. Schnoor:

The Division of Oil, Gas and Mining has reviewed the referenced amended Notice of Intention to Commence Large Mining Operations (Notice) that was received on February 16, 2016. The attached comments will need to be addressed before the Division can approve these submittals as part of the Notice of Intention to Commence Large Mining Operations (Notice).

After the notice is determined technically complete, the Division will request two clean copies of the complete and corrected plan. Upon final approval, the pages will be stamped accepted or approved, and one copy will be returned for your records.

The Division has the following general comments:

- Please resubmit the "Request for Approval to Construct" from the Department of Environmental Quality (DEQ) after their requested changes have been made and the document is finalized with DEQ. The Division will then place the completed construction drawings in the Appendix of its Notice.
- The Division may have additional comments based on the review responses.

The Division will suspend further review of the Notice receiving your response to this letter. Please contact Leslie Heppler at 801-538-5257 or me at 801-538-5261 if you have questions about this review.

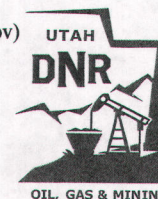
Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: lah: eb

Attachment: Review

cc: Woody Campbell, Brian Hamos, and Doug Bacon, DEQ (WVCampbell@utah.gov, BHamos@utah.gov, DBacon@utah.gov)
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REVIEW of Submittals
Kennecott Barneys Canyon Mining Company
Barneys Canyon Mine

M/035/0009
March 22, 2016

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1	Cover ltr Page 2	<i>Previous Comment - Second bullet – It is not known what compactive effort is going into buttress fill. Is it as per embankment? If so, refer to specification, i.e. “as per specification 02056” which includes density and moisture, or include language such as, buttress material will placed as embankment. If this is the intent then fill needs to be included “buttress fill as per plans” - modify Spec 02056 under 1.1 A. and cover letter.</i>	lah	
		New Comment – No specifications have been provided in this submittal.	lah	
2	Figures G-02	<i>Previous Comment - Fence line is shown open in the southeast corner of the project.</i>	lah	
		New Comment - This has been corrected on G-03, but not on figure G-02.	lah	
3	GR3-02	<i>Previous Comment - Remove the north arrow and scale bar, as they don't apply to the profile and section.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	
4	BC-0*	<i>Previous Comment - Include the H:V on all slope call outs.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
5	Figures RC	<i>Previous comment - Where are the drawings for the other borrow areas? 02,07, 09, 01A &01B.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	
6	Figures BT-all	<i>Previous comment - At what stage of construction will the guardrail (shown on DT-01) be removed? What specification applies? Will the guardrail be disposed of offsite? This also applies to the notes on the fencing.</i>	lah	
		New comment – please reference specification number and sheet page of plan set. Currently the sheet notes “Remove Guardrail (by others).”	lah	
7	Figure BT1-02	<i>Previous comment - More detail is needed on Borrow area 06 and the liner, such as the purpose and need.</i>	lah	
		New comment – Please address specifically if the borrow area 06 will be used as a waste site and, if so, if there will be a clay liner under the HDPE. Notes 3.1 to 3.3 do not address the operator intends to add a clay liner.	lah	
8	BT1-03	<i>Previous comment - More detail is needed what is below HDPE liner. This applies to all BT*-03 sheets.</i>	lah	
		New comment – In summary address if it is the operator intends to add a clay liner.	lah	
9	Spec 01455	<i>Previous comment - Add Utah Administrative Code under 1.3, as OGM is noted under 1.9D.2.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
10	Spec 01571 Sec. 1.4 Definitions	<i>Previous comment - Please include definitions for "stilling basin" and "detention pond." Definitions should describe the intended function of each. These terms are often confused with "retention basin," "settling pond," and other similar terminology.</i>	mpb	
		New comment - Response says it will be included in the 90% specifications. The Division needs to know how these features are intended to function (relative to industry standard stormwater terminology), whether they will rely on infiltration or metered release, and whether they will have a semi-permanent volume of water (a "pond") or are intended to be dry most of the time (a "basin").	mpb	
11	Spec 02056	<i>Previous comment - Under section Part1, 1.1 A, add "buttress" if that is the intent. In addition delete bridge approach embankments if there are no bridges, or perhaps change to "structures", if that is the intent.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	
12	Spec 02075	<i>Previous comment - Under either 1.2 or 1.3 the Utah Department of Environmental Quality (DEQ) Regulations should either be related or referenced. In addition under section 3.8 E., acceptance of the liner should include the appropriate text relating to the liner acceptance by DEQ 3.8 E.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.		

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
13	Omission	<i>Previous Comment - Earthmoving equipment should be washed prior to accessing the site, i.e. be weed free. This might be included under Mob 01285, Environmental 01355, Embankment 02056, or Topsoil 02912.</i>	lah	
		New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	
		New comment - There may also be track-out facilities needed for vehicles leaving the site and accessing paved roads. If track-out pads are needed, please include construction diagrams and plans showing locations. These would hopefully already be on the SWPPP map.	mpb	
14	Spec 02231	<i>Previous Comment - 1.4 B - The definition of "deleterious" needs to be refined further.</i> New comment - Response notes it will be included in the 90%; OGM to review at 90%.	lah	
15	SWPPP diagrams	<i>Previous comment - Please identify the blue (wet) areas in the legend/key. Use terms to be consistent with above comment on Spec 01571 definitions, and label these features as such.</i> New comment - To be addressed in 90% specifications; the Division will review on these specifications.	mpb mpb	
16	Figures	<i>Previous comment - On some figures, the "detention" structures are called "basins" while on others they are called "ponds." Please be consistent and coordinate with the request for these to be defined in the previous Specs 01571 comment.</i> New comment - To be addressed in 90% specifications which the Division will review.	mpb mpb	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
17	Figures GR#-01	<i>Previous comment - For the 60% spec package, please include hydrologic work-up calculations and include storage volumes for the storm water catchments shown on these diagrams.</i>	mpb	
		New comment - To be addressed in 90% specifications which the Division will review.	mpb	
18	Omission	<i>Previous comment - Briefly explain methods for determining terrace spacing and need.</i>	pnb	
		New comment – The Division has observed significant rilling and erosion on graded heap leach pile slope lengths of about 150 feet, even when ripped on the contour. The terrace spacing of 300 feet corresponds to a hydrologic modeling assumption that sheet flow will travel a maximum distance of 300 ft, beyond which rilling is anticipated. The Division understands that ongoing post-reclamation maintenance is part of Kennecott's planned reclamation, and will accept reclamation drawings if evaluated and stamped by a Professional Engineer.	pnb	
		Please show in the plan how erosion will be controlled in a way to facilitate revegetation between the terraces of the graded heap slopes.	pnb	
20	Work Plan	<i>Previous comment - Discuss the results of testing for arsenic and thallium on the proposed borrow sources, and implications for using that material for cover. It appears that arsenic above the planned clean-up standard was present in XRF samples taken from borrow areas 05 and 06.</i>	pnb	
		New comment - To be addressed in 90% specifications which the Division will review.	pnb	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
21	Work Plan Figures 5-2B and 5-3B	<p><i>Previous comment - What are the thallium values east of the pile stockpile, in the floatation plant area?</i></p> <p>New comment – Consistent with your sampling program to date, baseline sampling of these areas for thallium should be performed prior to reclamation, and the same post-reclamation thallium standard should apply. Measured pre- and post-reclamation thallium values should be reported to the Division.</p>	<p>lah</p> <p>lah</p>	